

# A new species of *Typhonium* Schott (Araceae–Areae) from the Northern Territory, with notes on the conservation status of two Areae endemic to the Tiwi Islands

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## Abstract

Hay, A.<sup>1</sup> and Taylor, S.M.<sup>2</sup> (<sup>1</sup>Royal Botanic Gardens, Mrs Macquaries Road, Sydney, NSW, Australia 2000; <sup>2</sup>Northern Territory Herbarium, Parks & Wildlife Commission of the Northern Territory, P.O. Box 496, Palmerston, NT, Australia 0831) 1996. A new species of *Typhonium* Schott (Araceae–Areae) from the Northern Territory, with notes on the conservation status of two Areae endemic to the Tiwi Islands. *Telopea* 6(4): 563–567. *Typhonium johnsonianum* is described as new from Black Jungle, NT. The discovery of two or three further incompletely known Northern Territory Areae is noted. The newly described species is fitted into a previously published key to *Typhonium* in Australasia. *T. jonesii* A. Hay is noted to be widespread and fairly common in the Tiwi Islands. A second population of the rare *Lazarum mirabile* A. Hay is reported from Melville Island. Conservation status of these taxa is proposed using ROTAP codes.

## Introduction

Sriboonma et al. (1994) published a revision of *Typhonium*, based mainly on study of the Asiatic species and incorporating the Australasian species recognised in Hay (1993). The closely allied Australian endemic genus *Lazarum* A. Hay, with one species, was erected by Hay (1992). Generic delimitation and distribution of the tribe Areae, to which these genera belong, have been discussed by Hay (1992, 1993).

Recent collecting by S.M.T. has turned up three or four (some of the variation may be intraspecific) putatively new taxa of Areae in the Northern Territory, all within a short distance of Darwin. Of these, only one is yet known in flower. The other two or three taxa, not matching known species vegetatively and not able to be ascribed with certainty to one or other of the above-mentioned genera, are now in cultivation at the Royal Botanic Gardens Sydney and/or the Darwin Botanic Gardens. While it is unlikely that they will all become known in flower and be validly named before the deadline for submission of the Araceae manuscript for *Flora of Australia*, it seems desirable to name the one that is more fully known before that deadline is reached. These new taxa, added to those recognised in Hay et al. (1995), bring the total number of indigenous Australian aroid species to 31 or 32.

Recently A.H. was able to join an excursion to the Tiwi Islands organised by the Parks & Wildlife Commission of the Northern Territory which found, *inter alia*, a second population of *Lazarum mirabile*, hitherto known only from its Type locality, and several additional populations of *Typhonium jonesii* A. Hay.

### 1. *Typhonium johnsonianum* A. Hay & S. Taylor, sp. nov.

Ab aliis speciebus *Typhonii* organis neutris supra, inter et infra pistilla dispositis, appendice lateraliter compressa differt.

**Holotype:** Northern Territory: Black Jungle Reserve, 12°30'S 131°12'E, S.M. Taylor 218, 21 Dec 1994 (DNA, fl.).

Deciduous geophyte; corm cream, hemispherical, c. 1.5 cm diam., orientated on its side; foliage leaves 5 together; petiole 4 cm long, sheathing in the lower 3.5 cm; free portion of petiole c. 1.5 mm diam., channelled; sheathing portion membranous, weak, to c. 5 mm wide, subterranean; leaf blade dull light green, somewhat coriaceous, ± elliptic, the base obtuse, the tip shortly apiculate, blade of first foliage leaf much reduced, c. 1 cm long, the remainder c. 3.5 cm long x 1.7 cm wide; midrib somewhat prominent at the base abaxially, elsewhere ± flush with lamina; primary lateral veins c. 3 on each side of the midrib, diverging at c. 30°, slightly impressed abaxially, slightly raised adaxially. Inflorescence terminal, arising among the leaves of which some precede and some follow it (i.e. current growth comprised of parts of each of two modules of a sympodium); peduncle equalling the sheathing portion of the petiole, c. 2.5 mm diam., faintly angled in cross-section; lower spathe white with vertical maroon stripes and a grey-maroon ring at the top, cup-shaped, abruptly constricted at the apex, c. 1.2 cm diam., keeled abaxially, faintly longitudinally ribbed; spathe limb light green outside, brownish maroon within, ± lanceolate, c. 5 cm long x 1.5 cm wide near the base, erect to slightly deflexed; spadix shorter than the spathe, 4.5 cm long, sessile; female zone c. 3 mm long; pistils acroscopic, narrowly obpyramidal, ridged longitudinally, c. 1 mm tall, stigma very prominent, dome-shaped, papillate; sterile interstice c. 1.7 cm long, naked except for filiform neuter organs in the lower 3 mm, very slender; neuter organs also distributed within and immediately below the female zone, c. 7 mm long, erect and straight except for curved-over distal 1 mm; male zone 6 mm long, 3 mm wide from the side, laterally compressed; male flowers not discernible as such, the zone ostensibly a mass of stamens; anthers cream, sessile, dumb-bell-shaped from above, but with the connective c. twice the height of the thecae; appendix chocolate brown, sessile, c. 5 mm wide at base in lateral view, compressed, c. 2 mm wide in dorsiventral view, longitudinally ridged, rugose, tapering to a rather blunt point; infructescence unknown. Fig. 1.

**Derivation of epithet:** this species is named in honour of L.A.S. Johnson, venerable Australian botanist, following the occasion of his seventieth birthday.

**Flowering period:** December.

**Habitat:** Open grassy clearing between *Acacia auriculiformis*/*Melaleuca* forest and *Lophostemon lactifluus* forest near flood plain edge, in sandy well drained soil with high water table during wet season.

**Distribution:** known only from the type locality.

**Proposed conservation status:** 2KCi. [For explanation of ROTAP codes, see Briggs & Leigh, 1988].

**Notes:** The occurrence of neuter organs amongst and below the pistils is not recorded in any other species of the genus (cf. Sriboonma et al. 1994). Acroscopic pistils are also found in *T. nudibaccatum* A. Hay (Kimberleys) and *T. jonesii* (Tiwi Islands), in *Lazarium* and in the allied Indian *Theriophonium* Schott, but not apparently in Asiatic or other Australian *Typhonium* species, though *T. filiforme* Ridl. (Malay Peninsula, Thailand) approaches this state. The organization of the shoot in this species corresponds to stem type D in Murata's study of diversity of shoot morphology in *Typhonium* (Murata 1990: fig. 5).

**Paratype:** Northern Territory: Black Jungle Reserve, north end, Taylor 156, 30 Nov 1993 (DNA, spirit, fl.; NSW, photo).



Fig. 1. *Typhonium johnsonianum*. a, habit; b, spadix; c, pistils and neuter organs; d, stamens. Scale bar: a = 6 cm; b = 3 cm; c, d = 7 mm.



**2. *Typhonium jonesii* A. Hay**

A. Hay (1993: 355)

Several localities in addition to those in the protologue can now be cited (see below) for this species, which occurs sporadically but quite commonly in the Tiwi Islands.

**Proposed conservation status:** 2R.

**Further specimens seen:** Northern Territory, Melville Island, Hanguana Jungle, *J.L. Egan & S. Callis 5155*, 5 Dec 1995 (DNA), cult. Darwin BG Acc. No. 951021 & *Hay 11003*, 5 Dec 1995 (NSW), cult. RBG Sydney Acc. No. 952463; Melville Island, 8 km W of Three Ways, *Hay 11019*, 7 Dec 1995 (no voucher), cult. RBG Sydney Acc. No. 952477; Melville Island, Three Ways – Snake Bay Rd, *Hay 11027*, 8 Dec 1995 (no voucher), cult. RBG Sydney Acc. No. 952485; Bathurst Island, c. 10 km W of Nguuu, *Hay 11040*, 12 Dec 1995 (no voucher), cult. RBG Sydney Acc. No. 952497.

**3. *Lazarum mirabile* A. Hay**

A. Hay (1992: 430).

Hitherto this species was known only from its Type locality at Hanguana Jungle (= Jump Up Jungle), Melville Island. A second population was found by Judy Egan (DNA) along the road from Three Ways to Snake Bay on Melville Island. A search on Bathurst Island failed to find this species there.

**Distribution:** endemic to Melville Island.

**Habitat:** occurring very sporadically in groups in open eucalypt woodland in lateritic and sandy soils, in patches where the leaf litter is sparse or absent, mainly near the bases of young *Cycas* plants.

**Proposed conservation status:** 2R.

**Further specimens seen:** Northern Territory, Melville Island, Hanguana Jungle, *J.L. Egan 5166*, 6 Dec 1995 (DNA, fr.), cult. Darwin BG Acc. No. 951049 & *Hay 11008*, 5 Dec 1995 (no voucher), cult. RBG Sydney Acc. No. 952468, *Hay 11011*, 6 Dec 1995 (no voucher), cult. RBG Sydney Acc. No. 952471; Melville Island, 10 km SE of Milikapiti (Snake Bay) along road to Three Ways, *J.L. Egan 5217*, 8 Dec 1995 (DNA, fr.), cult. Darwin BG Acc. No. 951045 & *Hay 11028* (no voucher), cult. RBG Sydney Acc. No. 952486.

**4. Amended key to *Typhonium* in Australasia (cf. Hay 1993: 348).**

- 1 Pistils set (sub)perpendicular to spadix axis, plagioscopic ..... 4
- 1\* Pistils set subparallel to spadix axis, acroscopic ..... 2
- 2 Neuter organs filiform, distributed above, below and within the female zone .....  
..... **T. johnsonianum**
- 2\* Neuter organs clavate to truncate, above the female zone ..... 3
- 3 = 2 in Hay 1993: 348.
- 4 = 3 in Hay 1993: 348; etc.

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